

Title (en)  
METHOD FOR THE PRODUCTION OF (METH)ACROLEIN AND/OR (METH)ACRYLIC ACID BY HETEROGENEOUSLY-CATALYSED PARTIAL OXIDATION OF C3 AND/OR C4 PRECURSOR COMPOUNDS IN A REACTOR WITH HEAT-TRANSFER PLATE MODULES

Title (de)  
VERFAHREN ZUR HERSTELLUNG VON (METH)ACROLEIN UND/ODER (METH)ACRYLS ÜRE DURCH HETEROGEN KATALYSIERTE PARTIALOXIDATION VON C3- UND/ODER C4-VORLÄUFERVERBINDUNGEN IN EINEM REAKTOR MIT THERMOBLECHPLATTENMODULEN

Title (fr)  
PROCEDE DE PRODUCTION D'ALDEHYDE (METH)ACRYLIQUE ET/OU D'ACIDE (METH)ACRYLIQUE, PAR OXYDATION PARTIELLE EN CATALYSE HETEROGENE DE COMPOSES PRECURSEURS COMPORTANT 3 ET/OU 4 ATOMES DE CARBONE, DANS UN REACTEUR COMPRENANT DES MODULES CONSTITUES DE PLAQUES DE TOLE THERMIQUES

Publication  
**EP 1663478 B1 20161005 (DE)**

Application  
**EP 04763459 A 20040723**

Priority  
• EP 2004008289 W 20040723  
• DE 10333867 A 20030724  
• US 48951003 P 20030724  
• DE 102004017150 A 20040407

Abstract (en)  
[origin: WO2005009609A1] A method for the partial gas-phase oxidation of C3 and/or C4 precursor compounds to give (meth)acrolein and/or (meth)acrylic acid in the presence of a heterogeneous particulate catalyst in a reactor is disclosed, having several parallelepiped heat-transfer plate modules (1), each comprising two or more rectangular parallel heat-transfer sheets (2), arranged to leave a gap (3) therebetween which may be filled with the heterogeneous particulate catalyst and through which the fluid reaction mixture flows, whereby the heat of reaction is removed by a heat transfer agent, flowing through the heat transfer plates (2), which is thus partly evaporated and a predominantly cylindrical shell (4, 15, 16), completely enclosing the heat transfer plate module and relieving the pressure thereon which has itself a cylindrical sleeve (4) and caps (15, 16) sealing the ends thereof, the longitudinal axis of which is arranged parallel to the plane of the heat-transfer plates (2) and one or more sealing elements (7, 23), arranged such that the fluid reaction mixture only flows through the gaps (3) when not flowing in the reactor inner chamber as defined by the caps (15, 16).

IPC 8 full level  
**B01J 19/24** (2006.01); **B01J 19/32** (2006.01); **C07C 45/35** (2006.01); **C07C 51/215** (2006.01); **C07C 51/25** (2006.01)

CPC (source: EP KR)  
**B01J 19/24** (2013.01 - KR); **B01J 19/249** (2013.01 - EP); **B01J 19/32** (2013.01 - KR); **C07C 45/35** (2013.01 - EP); **C07C 51/16** (2013.01 - KR); **C07C 51/215** (2013.01 - EP); **C07C 51/252** (2013.01 - EP); **C07C 57/04** (2013.01 - KR); **B01J 2208/0015** (2013.01 - EP); **B01J 2219/2453** (2013.01 - EP); **B01J 2219/2458** (2013.01 - EP); **B01J 2219/2459** (2013.01 - EP); **B01J 2219/2462** (2013.01 - EP); **B01J 2219/2474** (2013.01 - EP); **B01J 2219/2481** (2013.01 - EP); **B01J 2219/2486** (2013.01 - EP); **B01J 2219/2493** (2013.01 - EP); **B01J 2219/2495** (2013.01 - EP); **B01J 2219/2496** (2013.01 - EP); **B01J 2219/2497** (2013.01 - EP); **B01J 2219/2498** (2013.01 - EP)

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)  
**WO 2005009609 A1 20050203**; BR PI0412854 A 20061003; EP 1663478 A1 20060607; EP 1663478 B1 20161005; JP 2006528612 A 20061221; JP 4758895 B2 20110831; KR 101126005 B1 20120319; KR 20060041273 A 20060511; MY 137914 A 20090331; TW 200515948 A 20050516; TW I338590 B 20110311

DOCDB simple family (application)  
**EP 2004008289 W 20040723**; BR PI0412854 A 20040723; EP 04763459 A 20040723; JP 2006520811 A 20040723; KR 20067001552 A 20040723; MY PI20042961 A 20040723; TW 93121758 A 20040721